

FIG. 1

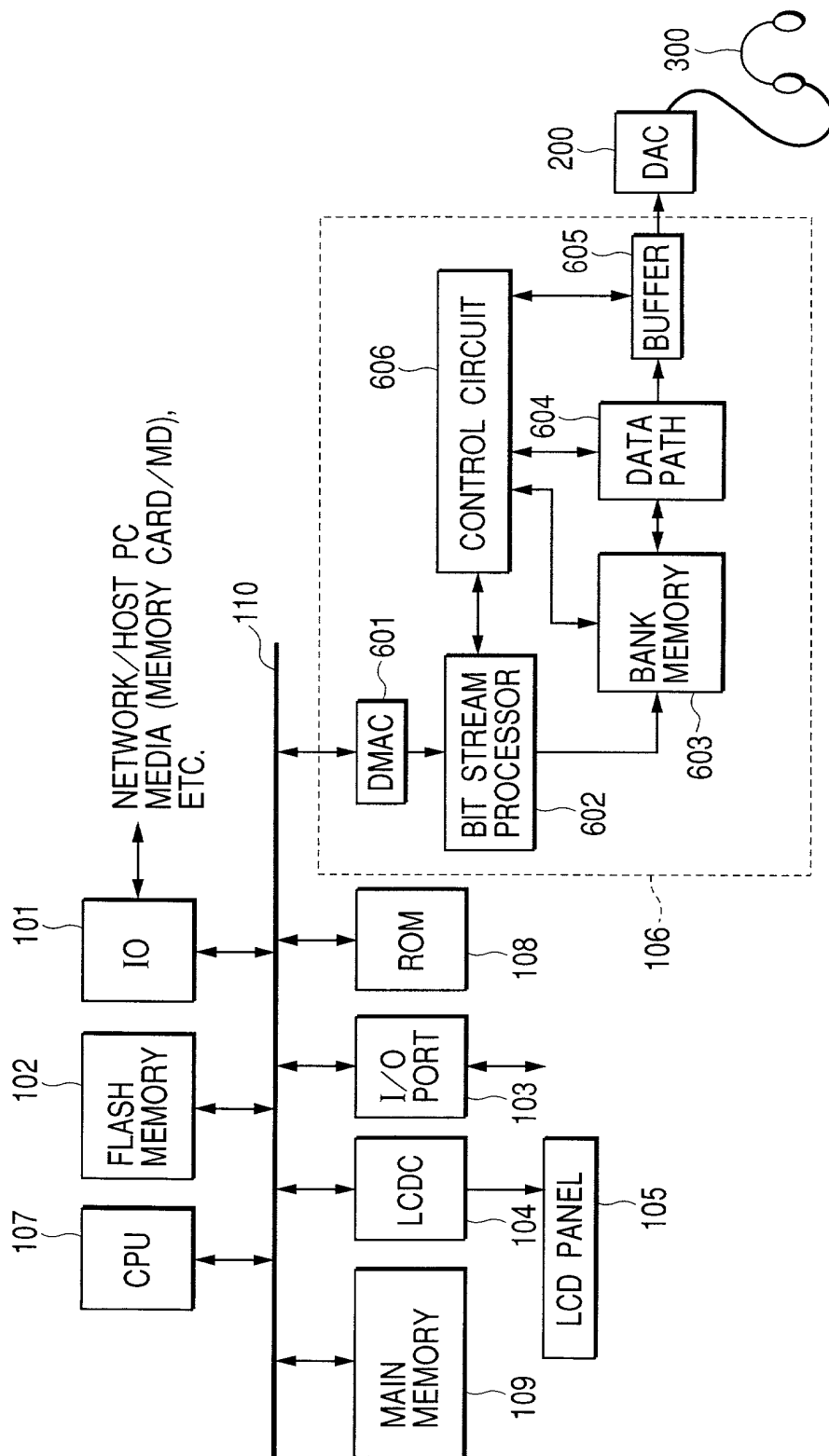
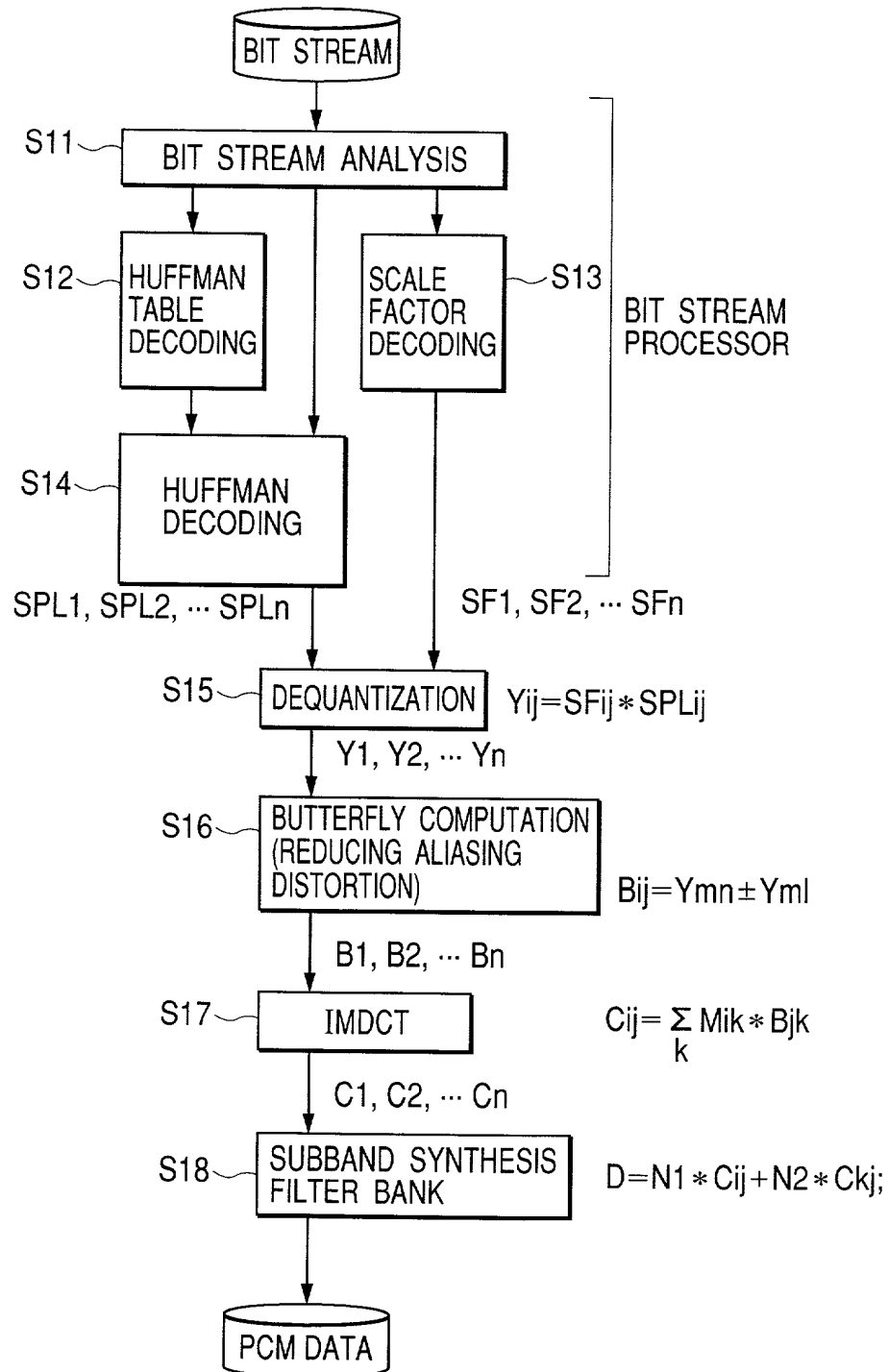


FIG. 2



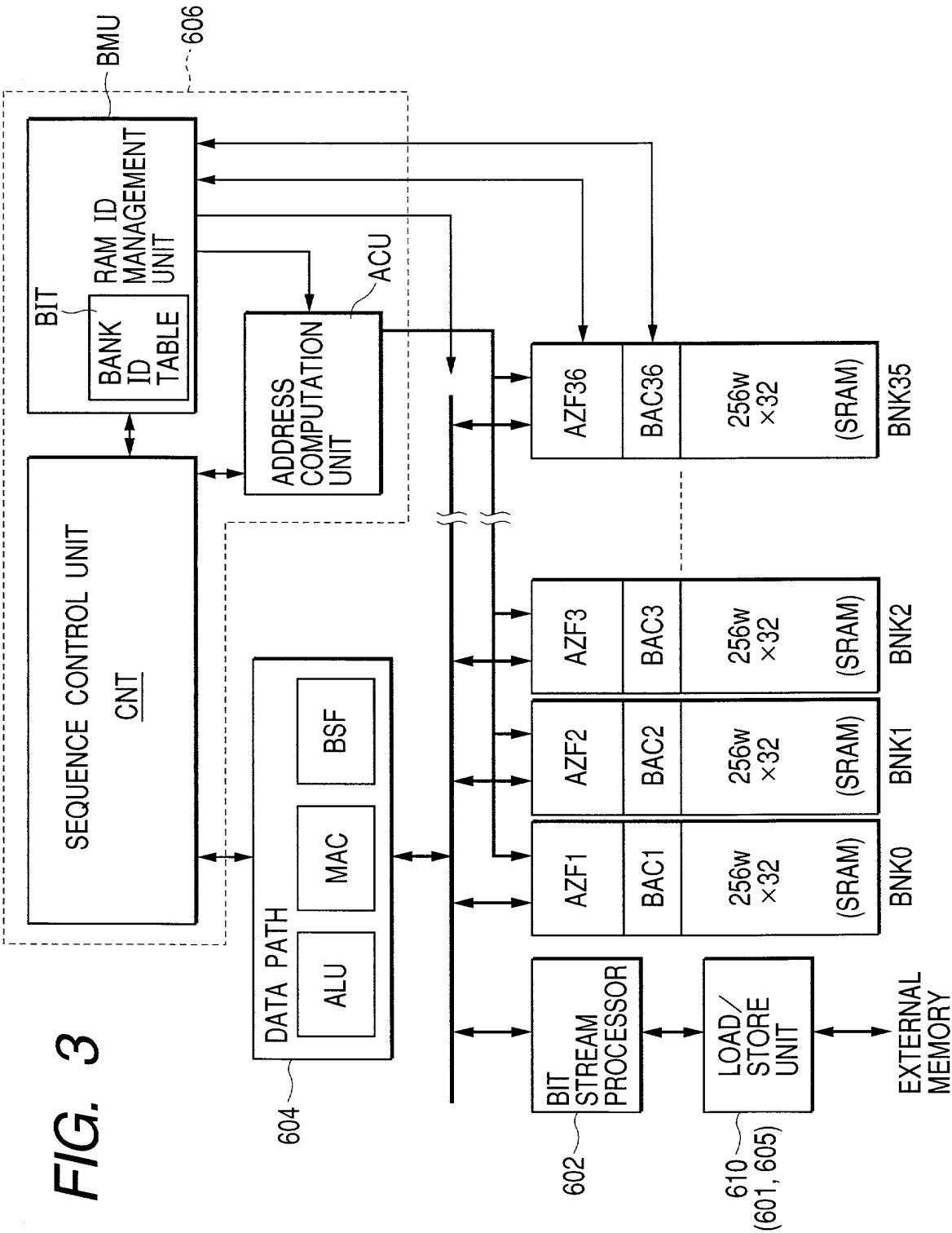


FIG. 4A

address

| | | | | |
|---|----|----|----|----|
| 0 | a0 | b0 | c0 | d0 |
| 1 | a1 | b1 | c1 | d1 |
| 2 | a2 | b2 | c2 | d2 |
| | ⋮ | ⋮ | ⋮ | ⋮ |
| | ⋮ | ⋮ | ⋮ | ⋮ |
| | ⋮ | ⋮ | ⋮ | ⋮ |
| n | an | bn | cn | dn |

BANK NUMBER (0) (1) (2) (3)

FIG. 4B

address

| | | | | |
|---|----|----|---|---|
| 0 | A0 | B0 | 0 | 0 |
| 1 | A1 | B1 | 0 | 0 |
| 2 | A2 | B2 | 0 | 0 |
| | ⋮ | ⋮ | 0 | 0 |
| | ⋮ | ⋮ | 0 | 0 |
| | ⋮ | ⋮ | 0 | 0 |
| n | An | Bn | 0 | 0 |

DATA WRITE

BANK NUMBER (0) (1) (2) (3)

FIG. 5A

AZF0 AZF1 AZF2 AZF3

| | | | |
|---|---|---|---|
| 0 | 0 | 0 | 0 |
|---|---|---|---|

address

| | | | | |
|---|----|----|----|----|
| 0 | a0 | b0 | c0 | d0 |
| 1 | a1 | b1 | c1 | d1 |
| 2 | a2 | b2 | c2 | d2 |
| | ⋮ | ⋮ | ⋮ | ⋮ |
| | ⋮ | ⋮ | ⋮ | ⋮ |
| | ⋮ | ⋮ | ⋮ | ⋮ |
| n | an | bn | cn | dn |

BANK NUMBER (0) (1) (2) (3)

FIG. 5B

AZF0 AZF1 AZF2 AZF3

| | | | |
|---|---|---|---|
| 0 | 0 | 1 | 1 |
|---|---|---|---|

address

| | | | | |
|---|----|----|----|----|
| 0 | A0 | B0 | c0 | d0 |
| 1 | A1 | B1 | c1 | d1 |
| 2 | A2 | B2 | c2 | d2 |
| | ⋮ | ⋮ | ⋮ | ⋮ |
| | ⋮ | ⋮ | ⋮ | ⋮ |
| | ⋮ | ⋮ | ⋮ | ⋮ |
| n | An | Bn | cn | dn |

DATA WRITE

BANK NUMBER (0) (1) (2) (3)

FIG. 6A

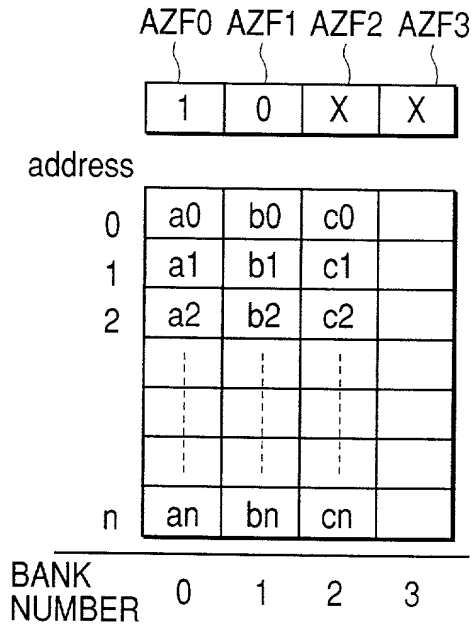


FIG. 6B

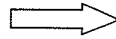
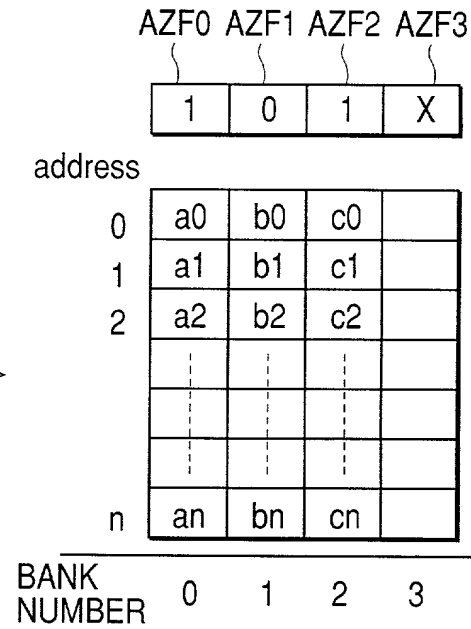


FIG. 7A

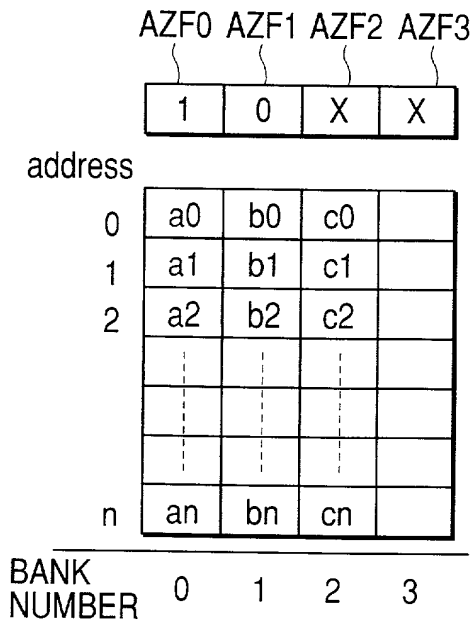
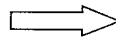


FIG. 7B

NORMAL
PROCESSING



$$\begin{aligned} a[i] + b[i] \\ &= 0 + b[i] \\ &= b[i] \end{aligned}$$

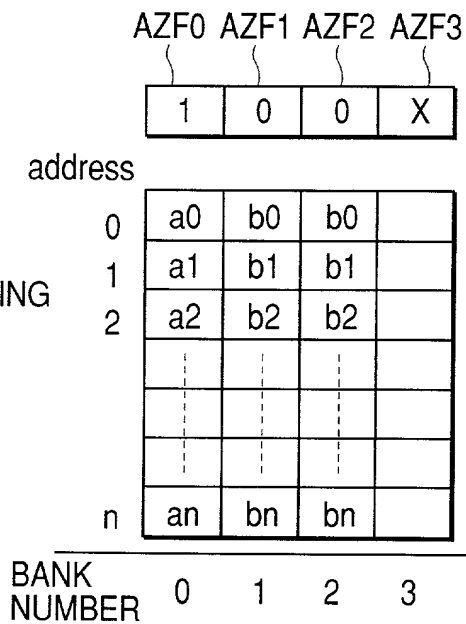
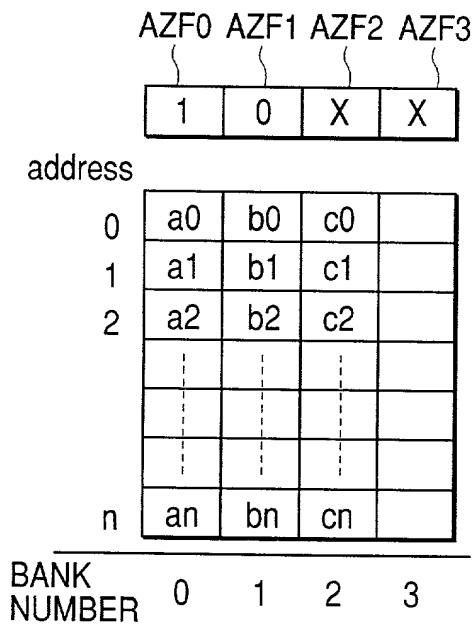
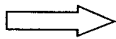


FIG. 8A

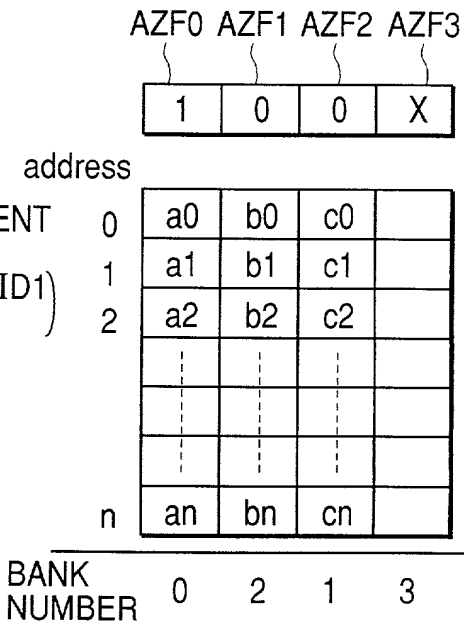


REASSIGNMENT
OF RAM IDs
(SWAPPING ID1
AND ID2)



$$\begin{aligned} a[i] + b[i] \\ &= 0 + b[i] \\ &= b[i] \end{aligned}$$

FIG. 8B



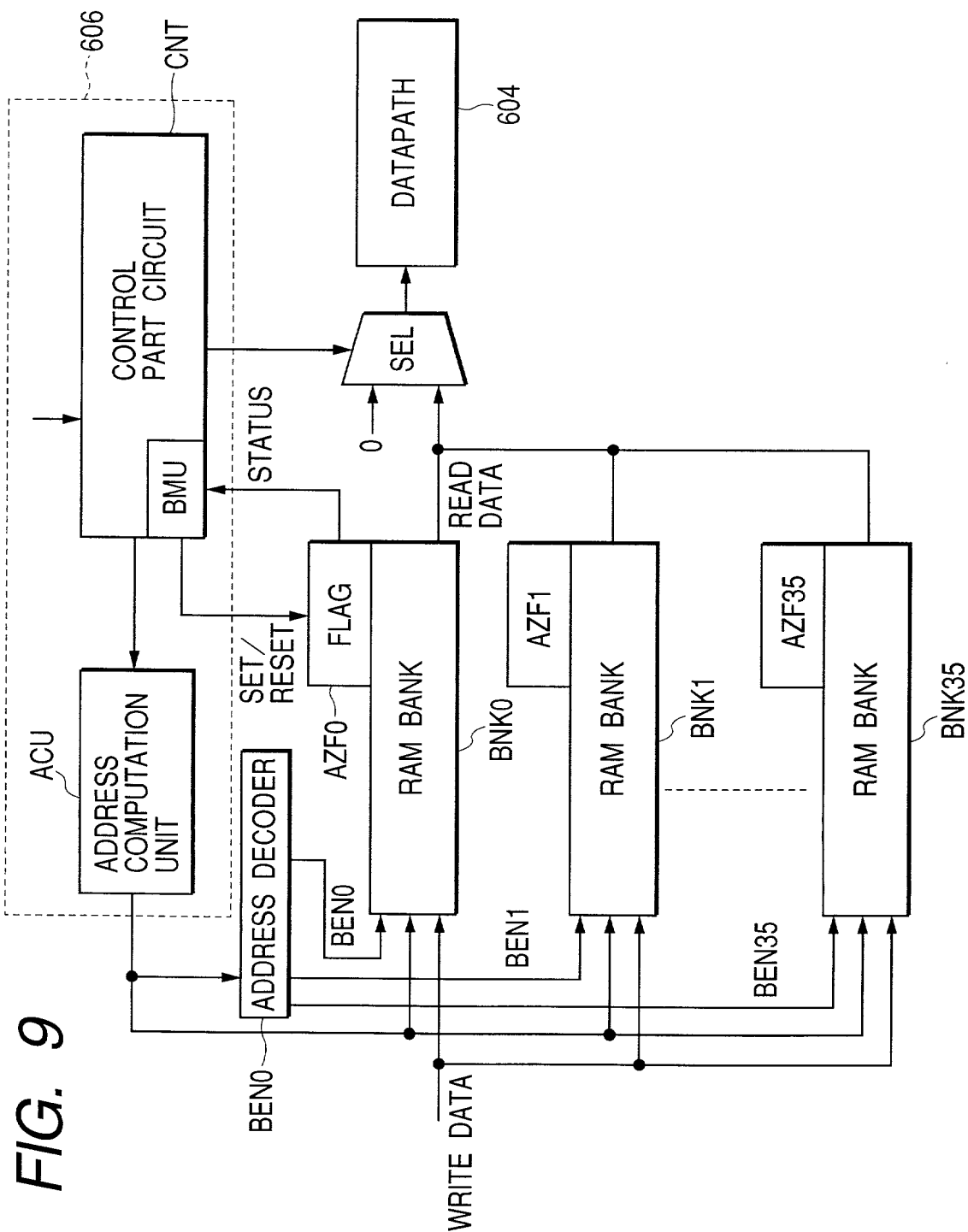
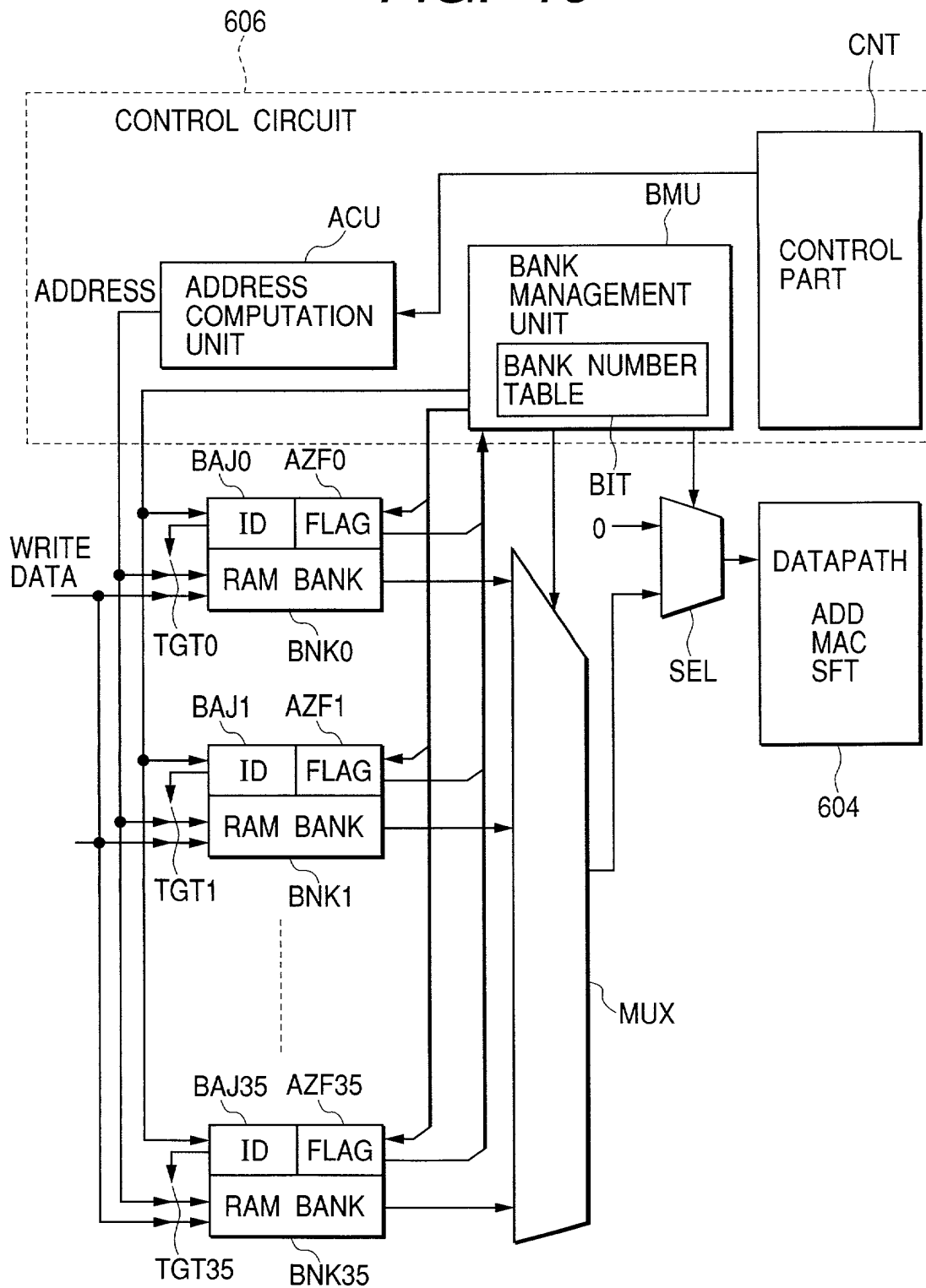


FIG. 10



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FIG. 11

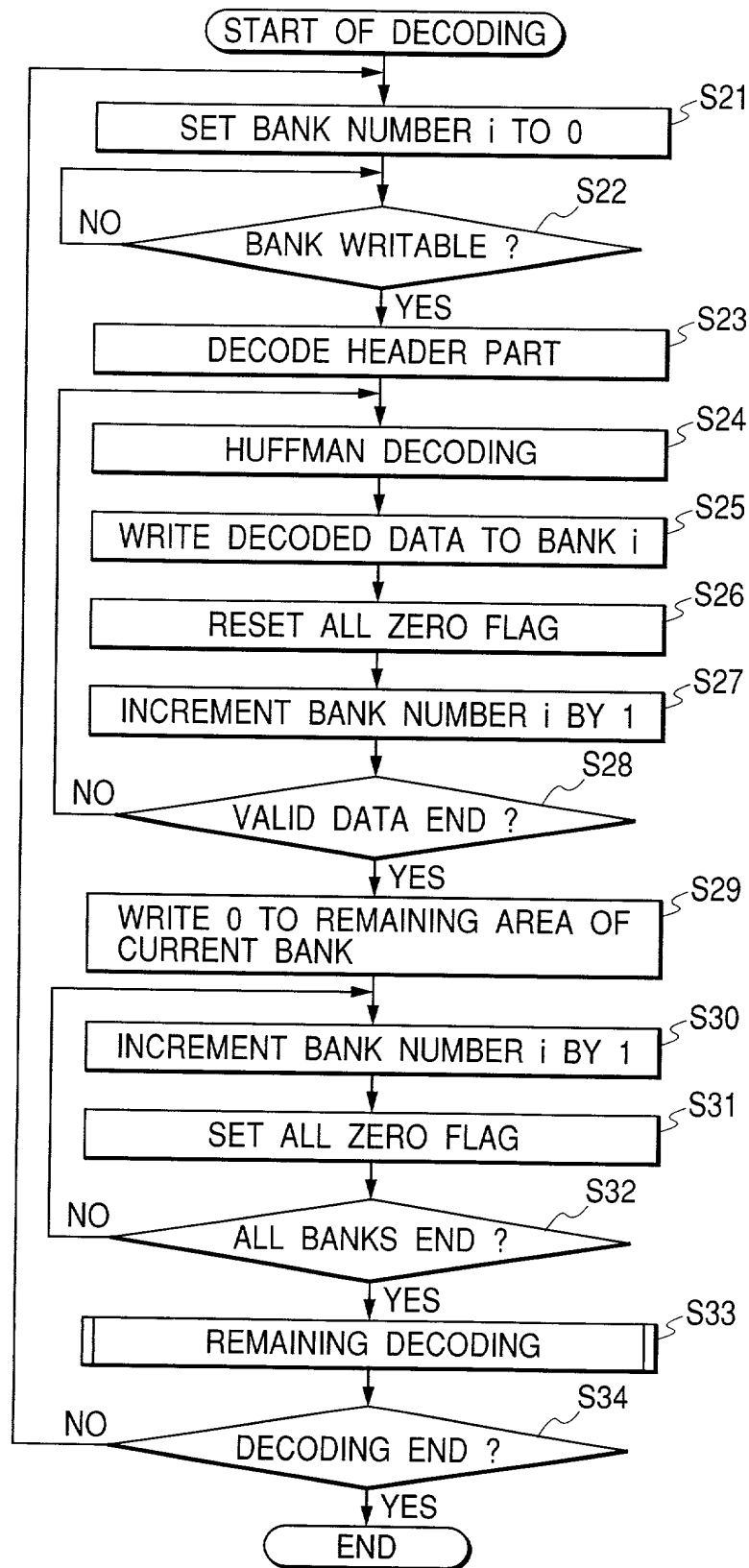


FIG. 12

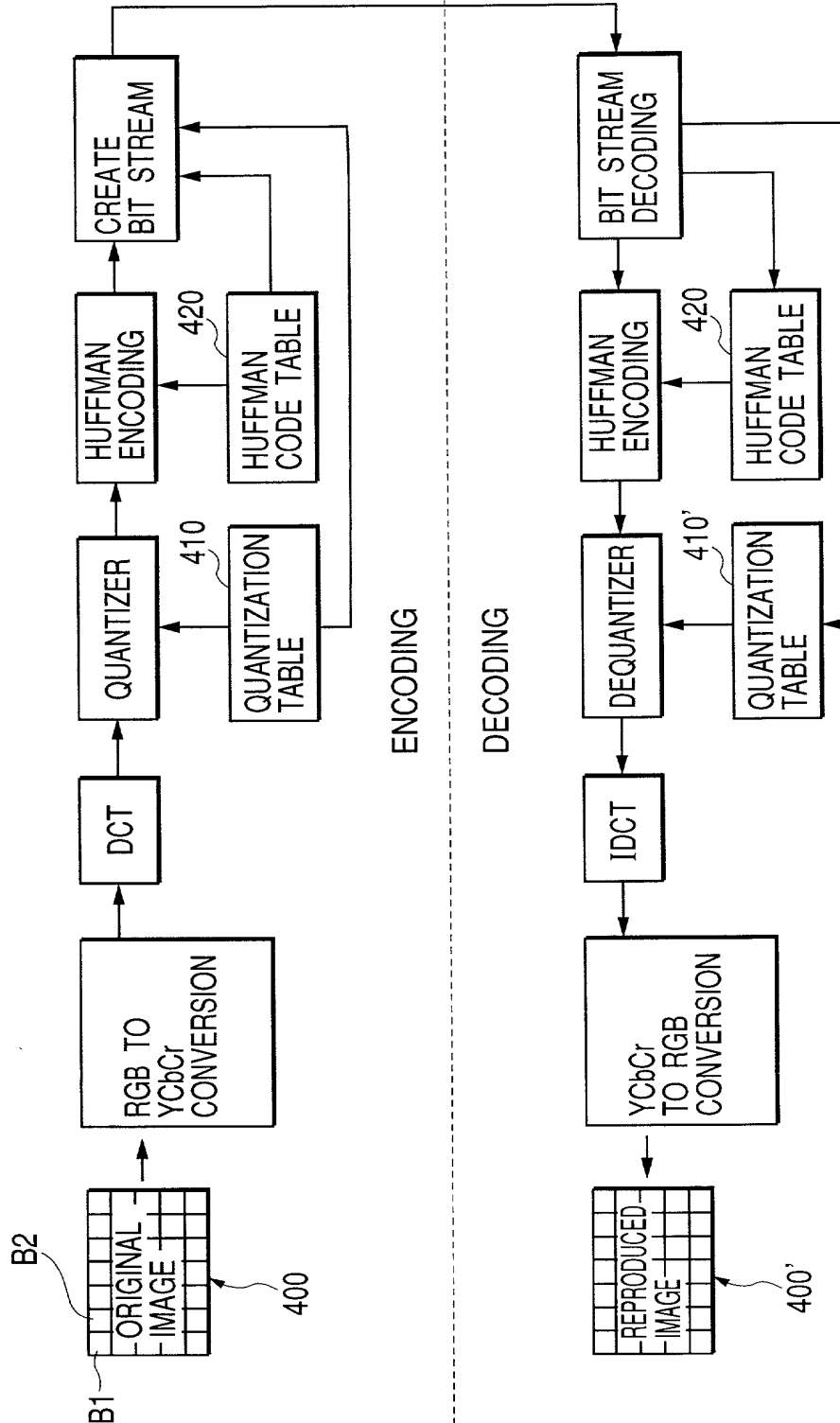


FIG. 13A

| | | | | | | | |
|----|----|----|----|----|----|---|---|
| 28 | 16 | 5 | 2 | 1 | 1 | 0 | 0 |
| 5 | -4 | -2 | -1 | -1 | 0 | 0 | 0 |
| -1 | 1 | -2 | 0 | 0 | -1 | 0 | 0 |
| 3 | -1 | 1 | 0 | 0 | 0 | 0 | 0 |
| -1 | 1 | -1 | 0 | 0 | 0 | 1 | 0 |
| 1 | 0 | 0 | -1 | 0 | 0 | 0 | 0 |
| 1 | -1 | 0 | 0 | 0 | 0 | 0 | 0 |
| -1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

FIG. 13B

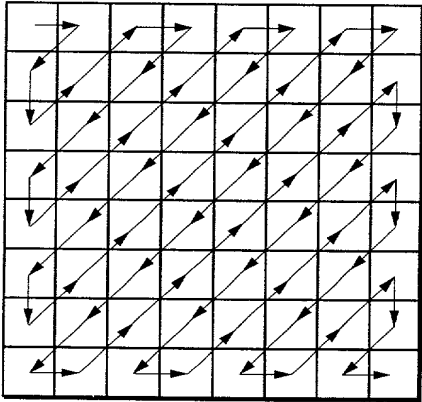


FIG. 14

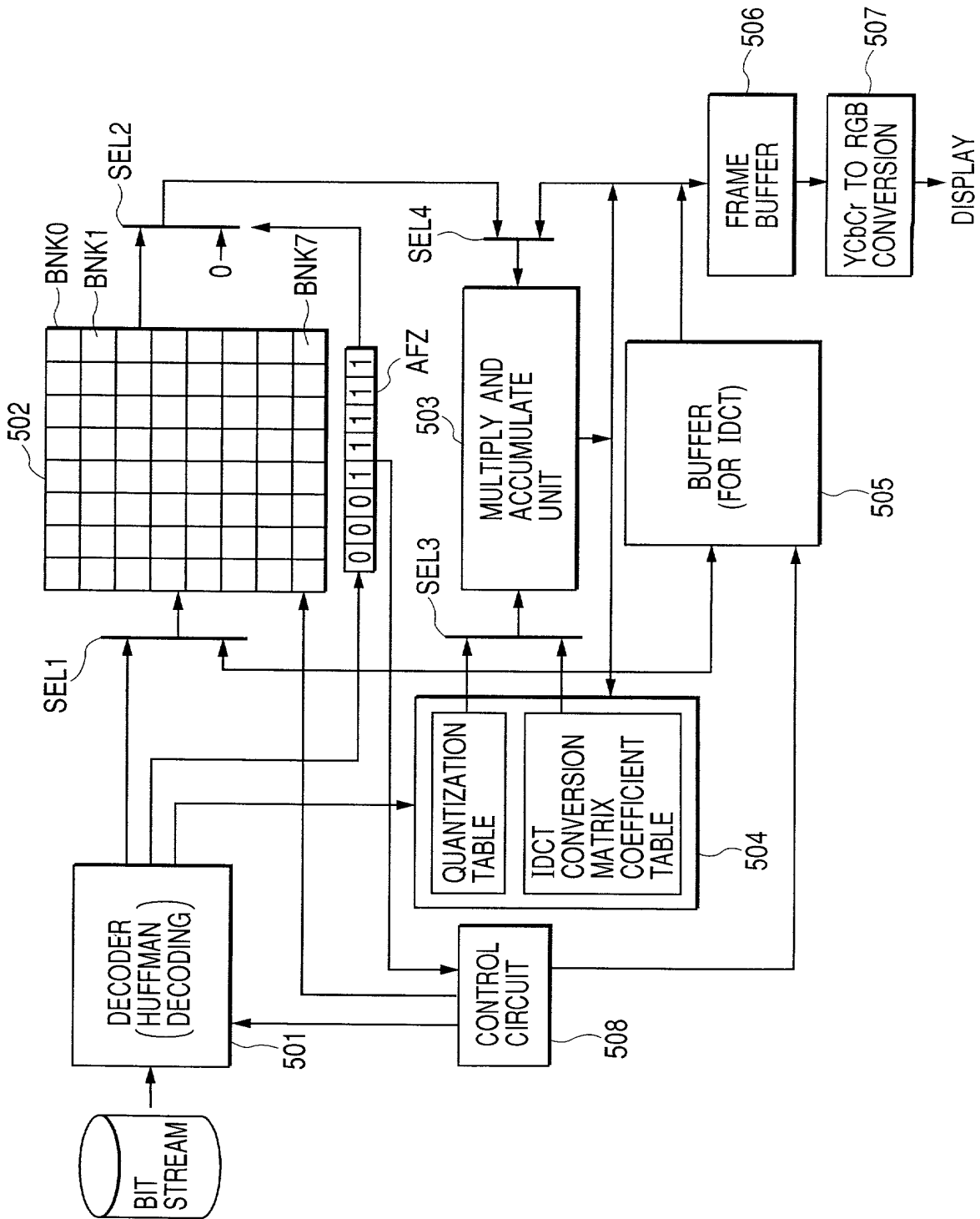


FIG. 15

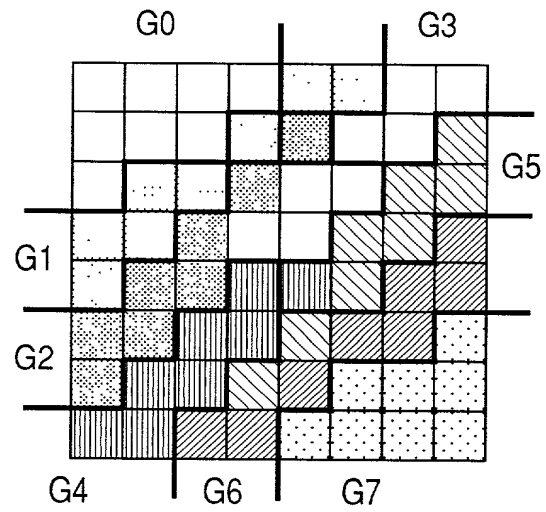


FIG. 16

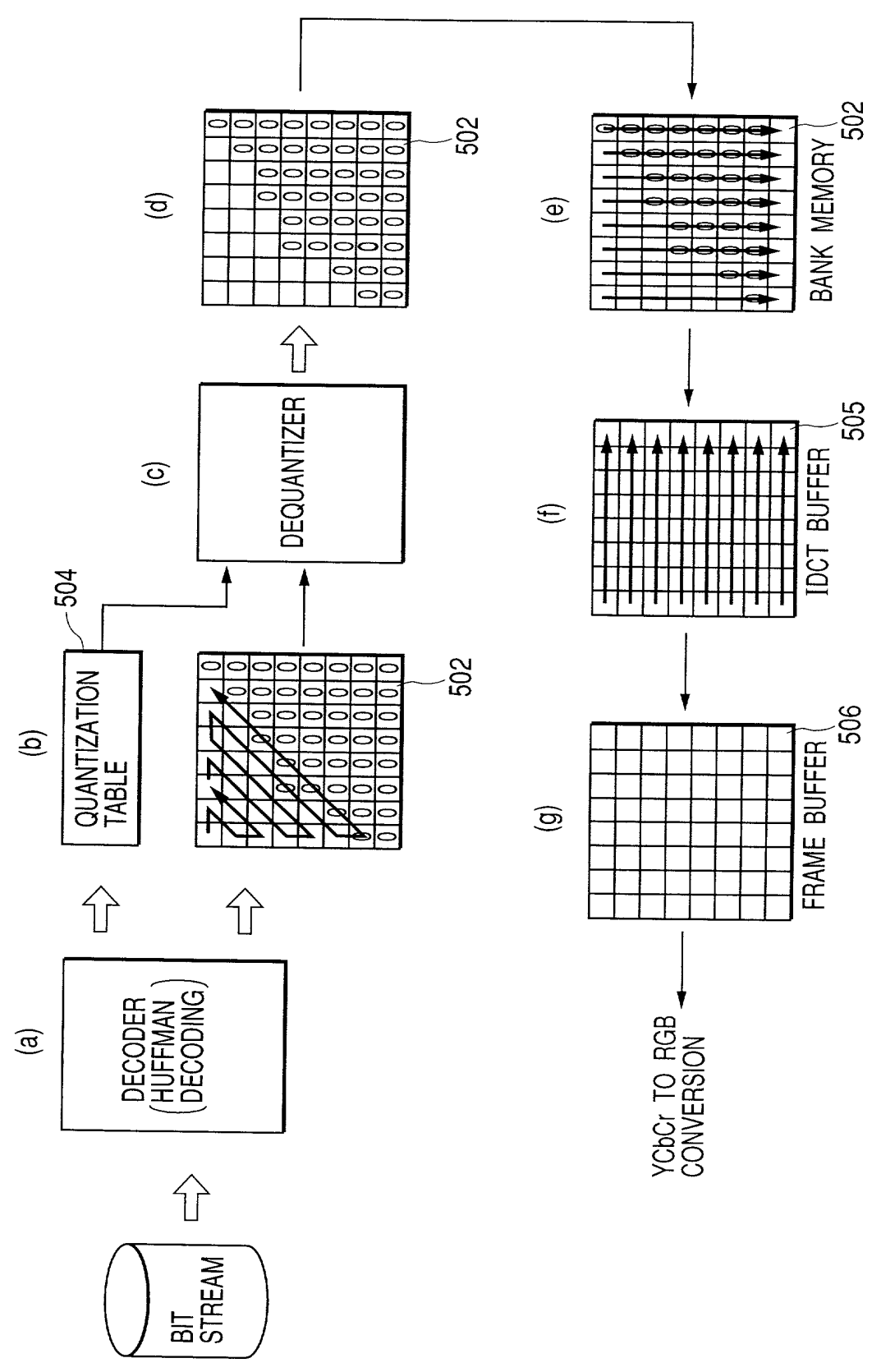


FIG. 17

